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As a result, it is expected that transmitting distance is approximately in a range of one meter to ten meters depending on a transmitting data rate.

*Page 4, in the background section, the third paragraph (extends to the page 5), replace with the following new paragraph:*

--- An OFDM is an orthogonal multicarrier modulation technique that has been extensively used in a digital audio and video broadcasting, and [[the]] a wireless WLAN 802.11a. The OFDM has its capability of multifold increasing symbol duration. With increasing the number of subcarriers, the frequency selectivity of a channel may be reduced so that each subcarrier experiences flat fading. ~~With such advantages, Thus, [[the]]~~ an OFDM approach has [[been]] shown in a particular useful for [[the]] wireless broadband communications over fading channels.

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*Page 4, in the background section, the second paragraph, replace with the following new paragraph:*

--- A direct sequence spread spectrum (DSSS) is to use a pseudorandom (PN) sequence to spread a user signal. The PN sequence is an ordered stream of binary ones and zeros that referred to as chips rather than bits. The DSSS can be used to separate signals coming from multiuser. Thus, [[T]] the multiple access interference (MAI) among multiuser can be avoided if a set of PN sequences is designed with as low crosscorrelation as possible.

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*Page 4, in the background section, the third paragraph, replace with the following new paragraph:*

--- A MIMO is a multiple-input-multiple-output as a wireless link and is also a space-time signal processing so that a natural dimensional of transmitting data is complemented with a spatial dimension inherent in the use of multiple spatially distributed antennas. In addition Thus, the MIMO